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ENCLOSURES   *(Check all that apply)*

☐ Fee Transmittal Form
  ☐ Fee Attached
☐ Amendment/Reply
  ☐ After Final
  ☐ Affidavits/declaration(s)
☐ Extension of Time Request
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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Townsend and Townsend and Crew LLP
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Date	January 18, 2006	Reg. No.	41,405

CERTIFICATE OF TRANSMISSION/MAILING

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-IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: ATSUSHI TANAKA Application No.: 10/817,032 Filed: April 2, 2004 For: NETWORK CONVERTER AND INFORMATION PROCESSING SYSTEM Customer No.: 20350	Examiner: Unassigned Technology Center/Art Unit: 2186 Confirmation No.: 2793 **RENEWED PETITION TO MAKE SPECIAL FOR NEW APPLICATION UNDER M.P.E.P. § 708.02, VIII & 37 C.F.R. § 1.102(d)**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Decision dated November 30, 2005 dismissing the original petition to make special, Applicants respectfully submit a renewed petition to make special the above-identified application under MPEP § 708.02, VIII & 37 C.F.R. § 1.102(d). The application has not received any examination by an Examiner.

(a)   The Commissioner has previously been authorized to charge the petition fee of $130 under 37 C.F.R. § 1.17(i) and any other fees associated with this paper to Deposit Account 20-1430.

(b)   All the claims are believed to be directed to a single invention. If the Office determines that all the claims presented are not obviously directed to a single invention, then Applicants will make an election without traverse as a prerequisite to the grant of special status.

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(c) Pre-examination searches were made of U.S. issued patents, including a classification search and a computer database search. The searches were performed on or around August 31, 2004, and were conducted by a professional search firm, Kramer & Amado, P.C. The classification search covered Classes 370 (subclasses 401, 466, 467, and 469) and 709 (subclasses 203, 223, 229, 230, 231, 232, 246, and 250) for the U.S. and foreign subclasses identified above. The computer database search was conducted on the USPTO systems EAST and WEST. The inventors further provided five references considered most closely related to the subject matter of the present application (see references #5-9 below), which were cited in the Information Disclosure Statement filed with the application on March 31, 2004 and on July 8, 2004.

(d) The following references, copies of which were previously submitted, are deemed most closely related to the subject matter encompassed by the claims:

(1) U.S. Patent No. 6,683,883;

(2) U.S. Patent Publication No. 2004/0019686 A1;

(3) U.S. Patent Publication No. 2003/0149829 A1;

(4) U.S. Patent Publication No. 2004/0148376 A1;

(5) U.S. Patent Publication No. 2003/0140193 A1;

(6) Japanese Patent Publication No. JP 2000-276406;

(7) Japanese Patent Publication No. JP 2002-318725;

(8) Julian Salran & Kalman Meth, IBM, "IP Storage Working Group icsc1," January 19, 2003; and

(9) CISCO, "Cisco SN5428 Storage Router Software Configuration Guide, Chapter 1," SN 5428 Storage Router Overview, www.ietf.org.

(e) Set forth below is a detailed discussion of references which points out with particularity how the claimed subject matter is distinguishable over the references.

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A.   Claimed Embodiments of the Present Invention

The claimed embodiments relate to a network converter and an information processing system.

Independent claim 1 recites an information processing system comprising an information processing device; a storage device which has a plurality of storage areas and a storage section storing a security management table for registering information about access enable/disable to each of the plurality of storage areas from the information processing device; a network converter connected to the information processing device and the storage device so as to be communicable; and a management terminal connected to the storage device and the network converter so as to be communicable. The network converter comprises a first protocol conversion section which converts data received from the information processing device according to a first protocol into data having a form determined by a Fibre Channel protocol and transmits the data to the storage device; a second protocol conversion section which converts data received from the storage device according to the Fibre Channel protocol into data having a form determined by the first protocol and transmits the data to the information processing device; a conversion table storage section which stores in a conversion table a combination of a first identification number which is a number for identifying the information processing device and the storage device according to the first protocol, and a second identification number which is a number for identifying the information processing device and the storage device according to the Fibre Channel protocol; a first identification number conversion section which converts the first identification number into the second identification number in accordance with contents stored in the conversion table; and a second identification number conversion section which converts the second identification number into the first identification number in accordance with contents stored in the conversion table. The management terminal notifies the storage device of information about access enable/disable to each of the plurality of storage areas from the information processing device, determines a combination of the first identification number and the second identification number related to each of the information processing device and the storage device based on the information about the access enable/disable and notifies the network converter of information about the combination of the first identification number and the second identification number.

Independent claim 7 recites a network converter connected to an information processing device and a storage device so as to be communicable. The network converter comprises a first protocol conversion section which converts data received from the information processing device according to a first protocol into data having a form determined by a Fibre Channel protocol and transmits the data to the storage device ; a second protocol conversion section which converts data received from the storage device according to the Fibre Channel protocol into data having a form determined by the first protocol and transmits the data to the information processing device; a conversion table storage section which stores in a conversion table a combination of a first identification number which is a number for identifying the information processing device and the storage device according to the first protocol, and a second identification number which is a number for identifying the information processing device and the storage device according to the Fibre Channel protocol; a first identification number conversion section which converts the first identification number into the second identification number in accordance with contents stored in the conversion table; and a second identification number conversion section which converts the second identification number into the first identification number in accordance with contents stored in the conversion table.

One of the benefits that can be achieved with the claimed invention is that it is possible to communicate with the information processing device, which transmits/receives data according to the iSCSI protocol, in consideration of the LUN security without adding new components and the like to the storage device which transmits/receives data according to the conventionally used Fibre Channel protocol. Thus, it is possible to construct an information processing system which makes effective use of existing resources.

B.   Discussion of the References

It is submitted that the cited references, whether taken individually or in combination with each other, fail to teach the invention as claimed. In particular, the cited references, at a minimum, fail to teach in combination with the other limitations recited in the claims, a network converter that includes the following features:

a conversion table storage section which stores in a conversion table a combination of a first identification number which is a number for identifying the

information processing device and the storage device according to the first protocol, and a second identification number which is a number for identifying the information processing device and the storage device according to the Fibre Channel protocol, as recited in independent claims 1 and 7;

a first identification number conversion section which converts the first identification number into the second identification number in accordance with contents stored in the conversion table, as recited in independent claims 1 and 7; and

a second identification number conversion section which converts the second identification number into the first identification number in accordance with contents stored in the conversion table, as recited in independent claims 1 and 7.

1. U.S. Patent No. 6,683,883

This reference discloses an ISCSI-FCP gateway for transferring information between an iSCSI device operating under an iSCSI protocol within a TCP/IP network and an SCSI over Fiber Channel (FCP) device operating under an FCP protocol within an FC network. A gateway 12 couples the FC network 32 to the TCP/IP network 16 to transfer data therebetween. A task mapping table 25 stores mapping between an iSCSI task identity and an FCP task identity (FC OXID). A connection mapping table 27 stores connection-pair between an initiator 50 and a target 52, where the initiator 50 (e.g., an SCSI host 14) sends a command to the target 52 (e.g., an FCP device) using the target's virtual TCP/IP address 58.

Although the reference relates to a gateway for transferring information between two devices with different protocols, it does not disclose a network converter having a conversion table to store identification numbers for the two protocols and conversion sections for converting the identification numbers between the two protocols. More specifically, the reference fails to teach a network converter having the above-described features: a conversion table storage section, a first identification number conversion section, and a second identification number conversion section, as recited in claims 1 and 7.

2. U.S. Patent Publication No. 2004/0019686 A1

This reference discloses a switching node apparatus for storage network and a method of accessing remote storage apparatus with a protocol conversion such as the iSCSI

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for mapping the SCSI used in the SAN into the IP, FCIP (Fibre Channel over TCP/IP) for tunneling FCP to the IP network, and an iFCP (Internet Fibre Channel Protocol). See [0063].

The reference is directed to optimizing a communication bandwidth on the IP network by a switch node (MGS). See [0064]. While the reference mentions mapping SCSI into IP, FCIP and iFCP, it does not disclose a network converter having a conversion table to store identification numbers for the two protocols and conversion sections for converting the identification numbers between the two protocols. More specifically, the reference fails to teach a network converter having the above-described features: a conversion table storage section, a first identification number conversion section, and a second identification number conversion section, as recited in claims 1 and 7.

3.   U.S. Patent Publication No. 2003/0149829 A1

This reference discloses an implicit addressing sequential media drive with intervening converter simulating explicit addressing to host applications with a router/gateway or another known construct utilized to convert between different protocols. For example, the converter 108 may convert between iSCSI or SCSI protocol from the network 106 and Fibre Channel protocol at the sequential media device 110. The converter 108 additionally changes the contents of commands passing through it (i.e., the addressing scheme). More specifically, the converter 108 mimics performance of an explicit addressing sequential media drive from the perspective of the host application 102, even though the device 110 actually utilizes implicit addressing. See [0026].

The reference discloses a converter for converting between iSCSI or SCSI protocol and Fibre Channel protocol. It does not, however, disclose a network converter having a conversion table to store identification numbers for the two protocols and conversion sections for converting the identification numbers between the two protocols. More specifically, the reference fails to teach a network converter having the above-described features: a conversion table storage section, a first identification number conversion section, and a second identification number conversion section, as recited in claims 1 and 7.

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4.   U.S. Patent Publication No. 2004/0148376 A1

This reference discloses a storage area network processing device combining the iSCSI protocol stack with the Fibre Channel protocol stack and translating between the two to achieve iSCSI-FC gateway functionality. In this way, the storage application platform 100 provides seamless communications between iSCSI hosts 102 and FCP targets 106, FCP initiators 102 and iSCSI targets 112, and FCP initiators 102 to remote FCP targets 106 across IP networks 114. See [0036].

The storage application platform 100 of the reference supports any combination of iSCSI initiator, iSCSI target, Fibre Channel initiator and Fibre Channel target interactions. See [0038]. The reference does not, however, disclose a network converter having a conversion table to store identification numbers for the two protocols and conversion sections for converting the identification numbers between the two protocols. More specifically, the reference fails to teach a network converter having the above-described features: a conversion table storage section, a first identification number conversion section, and a second identification number conversion section, as recited in claims 1 and 7.

5.   U.S. Patent Publication No. 2003/0140193 A1

This reference relates to methods, apparatus and systems for virtualization of iSCSI storage. Virtual storage isolates the clients from the management of physical storage resources. Each physical storage device supports multiple logical units (LUNs). Each supported LUN is associated with a separate TCP port number and iSCSI commands received on a given port implicitly refer to the associated LUN. An iSCSI host addresses each logical unit of storage (LUN) with a virtual IP address and port number. Using an address translation table, the virtualization gateway rewrites the destination IP address in the header of an incoming packet as well as the destination port number to correspond to the target physical LUN. Migration of logical units across physical storage devices is supported by changing the address translation entries at the gateway; and the gateway can be provided by a standard network router with support for address translation.

The reference is directed to a virtualization gateway 608 that rewrites the destination IP address in the header of an incoming packet as well as the destination port number to correspond to the target physical LUN in a scheme for virtualization of iSCSI

storage. The host 604 has a virtualization map which maps the access to different blocks of VLUN#0 to different TCP port numbers of IP address IP_v0. The virtualization gateway 608 initially translates packets from the host with source IP address IP0, according to entry 602 in its translation table 601. The virtual destination IP address, IP_v0, is replaced by IP1 and the destination port number port0 is unchanged. When there is a need for remapping, the entry at the gateway's translation map 601 is replaced, and the destination address and destination port number are replaced. See [0038].

The reference discloses a virtualization gateway for iSCSI devices. It does not disclose a network converter having a conversion table to store identification numbers for the two protocols and conversion sections for converting the identification numbers between the two protocols. More specifically, the reference fails to teach a network converter having the above-described features: a conversion table storage section, a first identification number conversion section, and a second identification number conversion section, as recited in claims 1 and 7.

6.   Japanese Patent Publication No. JP 2000-276406

This reference discloses a technique to prevent illegal access by selectively limiting access from a host device to a storage area in a storage subsystem. The storage subsystem 1201 is connected to the host device 1203 by a port 1202 which has multiple fiber channel interfaces. The storage subsystem 1201 has a communication control part 1211, and sends and receives information to and from a communication control 1214 to a device 1213 for maintenance through a communication line 1212 to maintain the storage subsystem 1201, and also set whether or not the host device 1203 is allowed to gain access by relating N-Port-Name and a specific storage area of LU 1210 with each other. Through the setting, access from the host device 1203 to the specific storage area in the storage subsystem 1201 is selectively limited. Consequently, illegal access can be prevented.

As discussed in the present application at page 2, lines 18-28, the reference describes background details of LUN security. It does not disclose a network converter having a conversion table to store identification numbers for the two protocols and conversion sections for converting the identification numbers between the two protocols. More specifically, the reference fails to teach a network converter having the above-described

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features: a conversion table storage section, a first identification number conversion section, and a second identification number conversion section, as recited in claims 1 and 7.

7. Japanese Patent Publication No. JP 2002-318725

This reference relates to a technique to provide a security function equal to a conventional LUN security in a disk array connected to a network by iSCSI technology. The system is provided with means for holding a plurality of IP addresses inside the disk array, means for making the IP address correspond to an LU, and means for filtering transfer by watching the IP address to be used for transfer. Then the IP address is made to correspond to the LU and the permission/no permission of transfer is set for every set IP addresses by a managing terminal; thus the filtering based on the IP address corresponding to the LU is realized on the disk array and a router.

The reference provides background details of LUN security as applied to a disk array connected to a network by iSCSI technology. It does not disclose a network converter having a conversion table to store identification numbers for the two protocols and conversion sections for converting the identification numbers between the two protocols. More specifically, the reference fails to teach a network converter having the above-described features: a conversion table storage section, a first identification number conversion section, and a second identification number conversion section, as recited in claims 1 and 7.

8. Julian Salran & Kalman Meth, IBM, "IP Storage Working Group icsc1," January 19, 2003

This reference relates to details of the iSCSI (internet Small Computer Systems Interface) protocol which is used between an information processing device and a storage device. The reference provides background information of the iSCSI protocol. See present application, at page 1, lines 18-23. It does not disclose a network converter having a conversion table to store identification numbers for the two protocols and conversion sections for converting the identification numbers between the two protocols. More specifically, the reference fails to teach a network converter having the above-described features: a conversion table storage section, a first identification number conversion section, and a second identification number conversion section, as recited in claims 1 and 7.

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9.   CISCO, "Cisco SN5428 Storage Router Software Configuration Guide,
      Chapter 1," SN 5428 Storage Router Overview, www.ietf.org

This reference discloses a WWN allocation section that sequentially allocates
WWNs, which are set in a WWN management table stored in a memory, to the respective
information processing devices. Thus, a different WWN may be allocated to the same
information processing device for each access. Consequently it is impossible to realize the
LUN security using the WWNs in the storage device. Accordingly, the network converter
includes the extended instruction issuing section which inserts an iSCSI name of the
information processing device into an FC frame. The FC frame is not an instruction prepared
in the Fiber Channel protocol. Thus, in order to realize the LUN security using the FC frame,
it is required that an extended instruction analysis section which analyzes the frame is
provided in the storage device. The extended instruction analysis section obtains the iSCSI
name of the information processing device from the FC frame and controls the LUN security
based on a security management table. See present specification at page 3, lines 3-21.

The reference is used in the Background of the present application to illustrate
the problem being addressed. It does not disclose a network converter having a conversion
table to store identification numbers for the two protocols and conversion sections for
converting the identification numbers between the two protocols. More specifically, the
reference fails to teach a network converter having the above-described features: a
conversion table storage section, a first identification number conversion section, and a
second identification number conversion section, as recited in claims 1 and 7.

(f)   In view of this petition, the Examiner is respectfully requested to issue
a first Office Action at an early date.

Respectfully submitted,

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